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Comparison of discontinuity occurrence in ozone data in selected reanalyses

Peter Krizan
Institute of Atmospheric Physics, Prague, Czechia (krizan@ufa.cas.cz)

The aim of this poster is to compare the discontinuity occurrence in the ozone data from the following reanalyses: ERA-5, MERRA-2 and JRA-55. We use the ozone concentration data from all layers between 500 hPa and 1 hPa in the period 1980-2020 in January. We also compute the total ozone content between these layers by vertical integration of ozone profile. We search for discontinuities also in this content. This is important topic, because the presence of discontinuities influences the values of trends and their significance. Discontinuities arise from the changing in the assimilation procedure, introducing new observation to the reanalyse, and changing of data quality. There are dates which the occurrence of discontinuities is expected in: 2004- transition from SBUV to EOS Aura data and 2015- the 4.2 MLS data were started to use instead of version 2.2. We search for discontinuities in the following classes of extremity: 1^{st}, 10^{th}, 25^{th}, 50^{th},75^{th},90^{th} and 99^{th} percentile as well as the mean. Ozone data with high occurrence of the discontinuities is not suitable for trend analyses.